

CLAIMS

I/We claim:

- [c1] 1. An active pixel comprising:
 a light sensing element formed in a semiconductor substrate;
 a sense node in electrical communication with said light sensing element
for outputting a signal produced by said light sensing element;
 an amplification transistor controlled by said sense node, wherein said
amplification transistor is a buried transistor formed in said semiconductor
substrate.
- [c2] 2. The pixel of Claim 1 wherein said light sensing element is selected
from the group of photodiode, pinned photodiode, partially pinned photodiode, or
photogate.
- [c3] 3. The pixel of Claim 1 further including a transfer transistor operative
to transfer said signal from said light sensing element to said sense node.
- [c4] 4. The pixel of Claim 1 wherein said amplification transistor outputs an
amplified version of said signal to a column bitline.
- [c5] 5. The pixel of Claim 1 further including a reset transistor operative to
reset said sense node to a reference voltage.

[c6] 6. The pixel of Claim 1 wherein said buried transistor is replaced with a depletion mode transistor.

[c7] 7. An active pixel for use in a CMOS image sensor comprising:
a light sensing element formed in a semiconductor substrate;
a sense node;
a transfer transistor operative to transfer a signal produced by said light sensing element to said sense node; and
an amplification transistor controlled by said sense node, wherein said amplification transistor is a body current transistor formed in said semiconductor substrate.

[c8] 8. The pixel of Claim 7 wherein said light sensing element is selected from the group of photodiode, pinned photodiode, partially pinned photodiode, or photogate.

[c9] 9. The pixel of Claim 7 wherein said transfer transistor is implemented as a buried transistor.

[c10] 10. The pixel of Claim 7 wherein said amplification transistor outputs an amplified version of said signal to a column bitline.

[c11] 11. The pixel of Claim 7 further including a reset transistor operative to reset said sense node to a reference voltage.

[c12] 12. The pixel of Claim 7 wherein said body current transistor is a buried transistor or a depletion mode transistor formed in said semiconductor substrate.